

Book reviews

RJ Stratton, CJ Green and M Elia. *Disease-related Malnutrition: An Evidence Based Approach to Treatment*. Wallingford, Oxon.: CABI Publishing. 2003. £95.00 (hardback). Pp. 824. ISBN 1 85199 648 5

Weighing in at more than 2 kg, this could never be classed as a 'bedside book'. If one drowsed whilst reading it in bed, the book would fall to the floor with a rousing thump. Likewise, at the ward bedside it would be too cumbersome, and, despite the subtitle (*An Evidence Based Approach to Treatment*), this is not a practical guide to clinical management in disease-related malnutrition (DRM).

The 'story' of the book involves only 336 of a total 824 closely printed pages interspersed with extensive tables giving details of studies relevant to issues raised in the text. Six appendices (even more extensively tabulated), depicting details of multitudinous other studies relevant to the main text, fill nearly 400 pages. These appendices, together with more than eighty pages of references, form the second half of the book. At times it is not clear why material is confined to the appendices as opposed to the main text, since the appendices include analyses of the effects of oral nutritional supplementation in hospital and community settings that seem equivalent in style and material to those of the book chapters.

What does the book cover? The prevalence, causes and consequences of DRM are followed by reviews of the relative benefits of oral nutritional supplementation, enteral tube feeding and parenteral nutrition. The authors are very conscious of the lack of statistically valid data in many of these areas. Definitions of malnutrition are varied and studies use different methodologies making it difficult to compare one study with another and to evaluate causes and consequences in an objective way. There is also limited methodology for evaluating outcomes of management. Mortality, length of hospital stay, complications, weight change (rarely other anthropometric measurements) and cost are the only outcomes used in studies with any consistency. These are crude assessments, particularly when nutrition can affect immunology, brain function and physical capacity, to name but a few functions of importance. Thus, the book is a mine of ideas for those looking for nutrition-related research projects. The very informative penultimate chapter on undertaking nutritional intervention trials not only gives advice on 'how to do it', but also lists areas which need further scientific exploration.

The authors' concerns about the validity of their conclusions may have kept them sitting on their descriptive fence rather than presenting their own evidence-based recommendations for treatment. (Was I wrong to expect this book to provide an approach to treatment based on evidence?) At the end of the chapter on the causes of DRM we are told that many national and international societies are now taking steps to produce and implement practice guidelines and nationally agreed standards. No definitive

approach to treatment is presented in the main text or the appendices. Nor do the authors offer guidelines from their own extensive review of the literature to fill this gap. Indeed, any review is largely concerned with comparisons of oral nutritional supplementation, enteral tube feeding and parenteral nutrition with little consideration for differences within these generic groups. Yet different feeds offered by the same method, different feeding methodologies, and varied clinical states of subjects, seem likely to influence outcomes in DRM. Concerned clinicians will search this book in vain for detailed evidence of best practice. The book is more reference book than treatment manual.

Reference books require good indexes. Compared with other aspects of the book, the index is short and sparse. For example, there is only one page listing under the heading malabsorption (admittedly something which does not feature much in the book, although it seems relevant to DRM), and that reference is to a single sentence rather than a section discussing the topic.

Who will read this book? It should be available for those working academically in the field of DRM since it is undoubtedly a substantial reference source on DRM and nutritional supplementation research. A main achievement of the book, however, must be to highlight the important problem of DRM and the therapeutic questions DRM poses. Let us hope the book stimulates the development of management policies that lead to more positive nutritional outcomes in disease, shorter hospital stays, and better quality of life for all affected.

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MI Gurr, JL Harwood and KN Frayn. *Lipid Biochemistry: An Introduction*, 5th ed. Oxford, Malden, Ames, Carlton and Berlin: Blackwell Science. 2002. £35.00 (paperback). ISBN 0 632 05409 3

The field of lipid biochemistry is rapidly expanding and, as the authors suggest, the wealth of information currently available is beyond the scope of a general biochemistry textbook. *Lipid Biochemistry: An Introduction* more than adequately fulfils the need for a comprehensive and up-to-date account of the biochemistry of lipids that is accessible and useful to students and researchers. It is written in a very easy-to-read style. The seven chapters, which lead

the reader from the basic structure and metabolism of lipids, through whole-body lipid metabolism to cellular signalling and membrane structure, are well organised and contain concise tables and clear figures. Information from mammalian, plant and microbial systems is presented. Rather than cite references throughout the text, each chapter is followed by a list of key references for further reading. The division of these lists into sub-headings that relate to specific passages of the text is particularly useful.

The first two chapters deal with general fatty acid structure and metabolism. Chapter 1 provides a clear description of basic lipid structure and an overview of analytical and preparative techniques including modern MS methodologies. However, this is not over-burdened with technical information that can be daunting for the general reader. Chapter 2 describes fatty acid structure in some detail. The wide range of possibilities for fatty acid chain-length and degree of unsaturation, together with some of the more unusual structural modifications such as cyclic, epoxy and hydroxyl groups, are described. The effects of differences in fatty acid structure on some physical properties are provided as tables. This chapter also provides a detailed account of *de novo* fatty acid biosynthesis. The description of the pathways of *n*-6 and *n*-3 PUFA biosynthesis both *de novo* and from dietary essential fatty acids in mammals is very up-to-date. Fatty acid β -oxidation in mitochondria and peroxisomes is described. This chapter also includes a clear account of the synthesis of eicosanoids from PUFA and some of their physiological effects.

Chapter 3 deals primarily with triacylglycerols as energy stores in animals and in seeds. Triacylglycerol structure and biosynthesis in plants and animals are described in detail followed by an account of triacylglycerol hydrolysis during digestion and during seed germination. The integrated regulation of triacylglycerol metabolism in the liver and in adipose tissue is also discussed. The processing of lipids in food production is discussed in Chapter 4. This is followed by a detailed account of the supply of fatty acids from mother to fetus, including the role of PUFA in neurological development. The effects of different dietary lipids on immune function and cancer are mentioned

only briefly, which was slightly surprising given the large amount of information available on these topics. A description of fat-soluble vitamins and their biological actions is also provided.

Chapter 5 is a very comprehensive description of the processes by which dietary lipid is assimilated and then transported in blood. The information provided ranges from lipid partitioning and the metabolism of lipoprotein particles to the regulation of these processes at the level of gene expression. The processes underlying the pathogenesis of atherosclerosis, and the relationship between obesity and insulin resistance are described.

Chapters 6 and 7 deal with lipid metabolism at the cellular level. Preceding the description of general membrane structure with detailed accounts of sphingolipids and glycolipids is confusing, particularly for the reader who is not already familiar with the subject. However, accounts of membrane structure and the effects of the lipid content on its biophysical properties are clear. The role of lipids as structural components of the surfaces of a variety of organisms is particularly useful, as this is not often dealt with in detail in a general text. Chapter 7 describes the biosynthesis and degradation of the structural lipids described in Chapter 6. Chapter 7 provides detailed accounts of phospholipid, sphingolipid and glycolipid biosyntheses. The generation of cell signalling second messengers by the action of phospholipases on phospholipids is described. The brief sections on pulmonary surfactant and lipid storage diseases are novel and useful examples of the diversity of lipid metabolism.

This book is an excellent resource for those teaching and for students studying lipid biochemistry at senior undergraduate level and above. I recommend it highly to anyone with an interest in lipids.

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